

Title (en)

Method and apparatus for performing a binary search on an expanded tree

Title (de)

Methode und Gerät zum Ausführen einer binären Suche über einen erweiterten Baum

Title (fr)

Procédé et appareil permettant une recherche binaire dans un arbre enrichi

Publication

EP 1158431 A3 20060517 (EN)

Application

EP 01304484 A 20010522

Priority

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Abstract (en)

[origin: EP1158431A2] A method and apparatus for searching an electronically stored table of information including a plurality of table entries and facilitating high speed searching of a table to provide a longest matching entry. The table searching method uses at least one memory unit having a table of information including a plurality of data entries. The table of information has a plurality of search keys associated with the plurality of data entries and the plurality of search keys form a tree structure based on a prefix length for each of the search keys. The plurality of search keys are expanded such that each of the plurality of search keys has two lowest level search keys associated therewith that cover a lowest level of the tree structure. A binary search of the lowest level search keys is performed based on a search value to determine a longest prefix match. A data entry of the plurality of data entries is output based on said longest prefix match. The method is also applicable to routing data in an internet router where the routing of data packets depends on address information stored in the table of information.

IPC 8 full level

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CPC (source: EP)

G06F 16/90344 (2018.12)

Citation (search report)

- [A] WO 9914906 A1 19990325 - EFFICIENT NETWORKING AB [SE]
- [A] WO 9401828 A1 19940120 - WELLFLEET COMMUNICATIONS [US]
- [A] US 5497485 A 19960305 - FERGUSON DAVID E [US], et al

Cited by

CN110781616A; EP2009559A1; CN108123872A; CN113820661A; CN100378732C

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